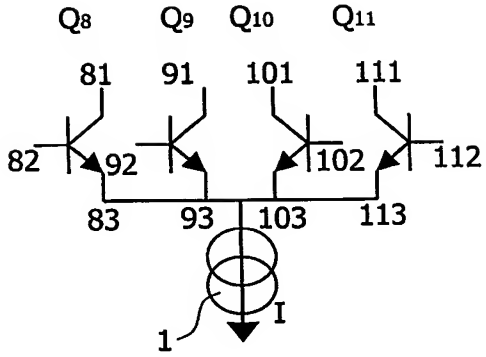

FIG.1

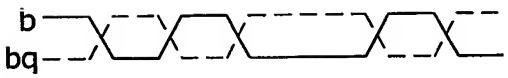

FIG. 2a

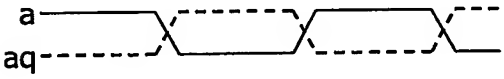

FIG. 2b

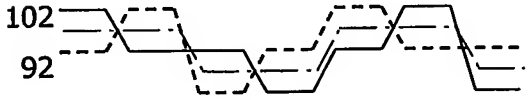

FIG. 2c

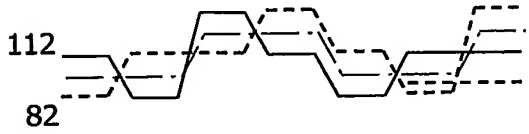

FIG. 2d

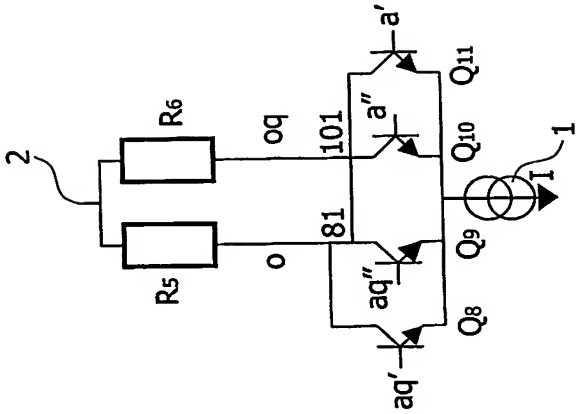
a'
Q11
a''
Q10
I
1
R6
oq
101
2
81
Q9
R5
o
aq''
Q8
aq'

FIG.4

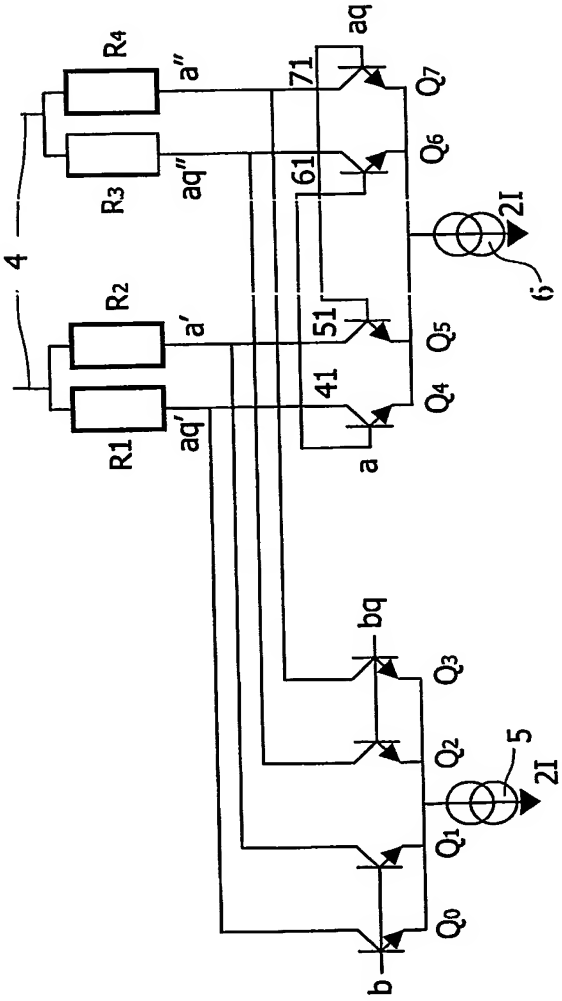
aq
R4
a''
71
Q7
Q6
aq''
R3
61
2I
6
4
R2
a'
51
Q5
41
Q4
R1
aq'
a
bq
Q3
Q2
5
2I
Q1
Q0
b

FIG.3

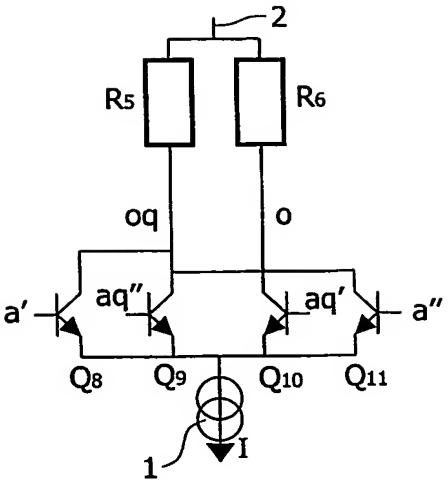
2
R5
R6
oq
o
a'
aq"
aq'
a"
Q8
Q9
Q10
Q11
1
I

FIG.5

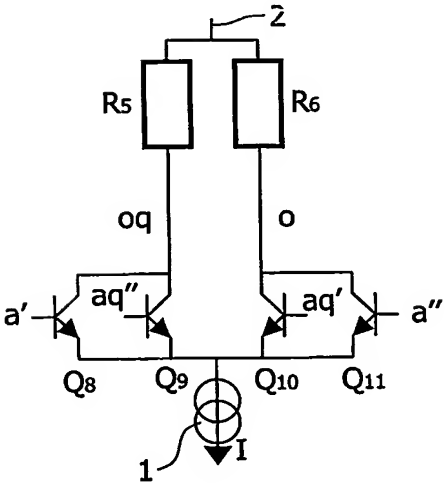
2
R5
R6
oq
o
a'
aq"
aq'
a"
Q8
Q9
Q10
Q11
1
I

FIG.6

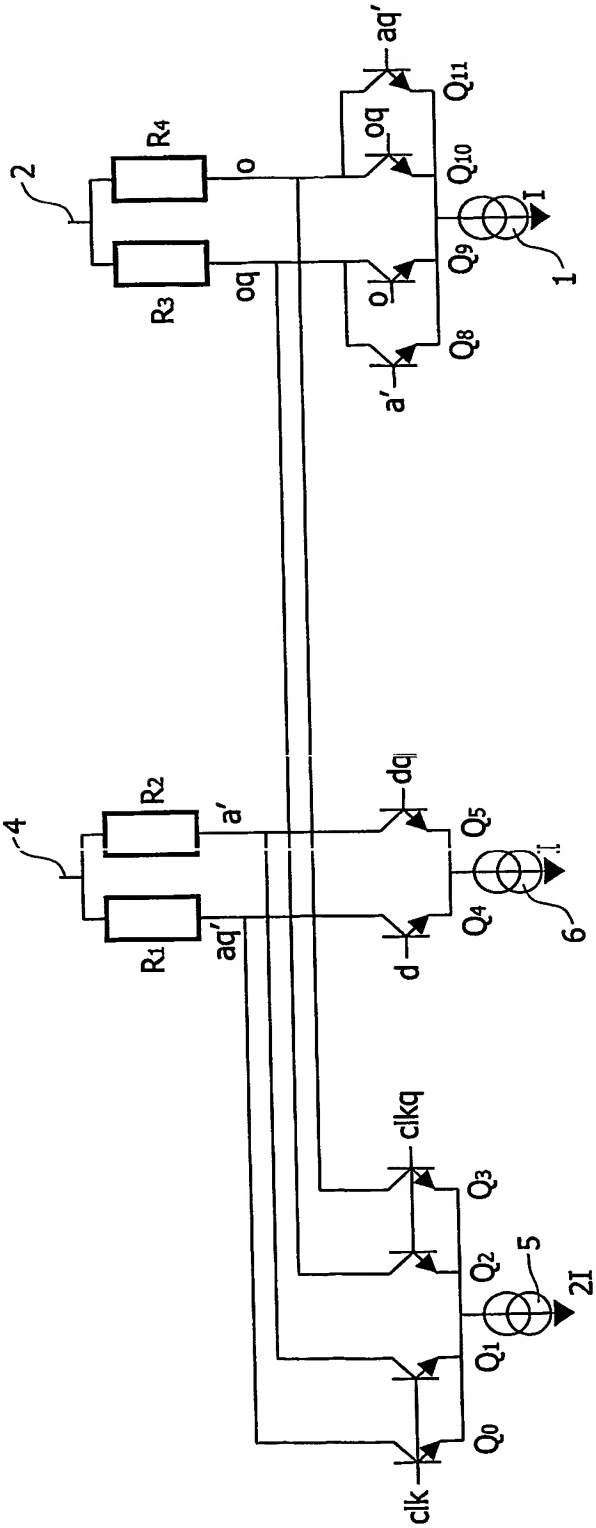
aq'
Q11
oq
Q10
R4
o
2
I
1
Q9
R3
oq
o
Q8
a'
R2
a'
dq
Q5
4
I
6
Q4
R1
aq'
d
clkq
Q3
Q2
5
2I
Q1
Q0
clk

FIG.7

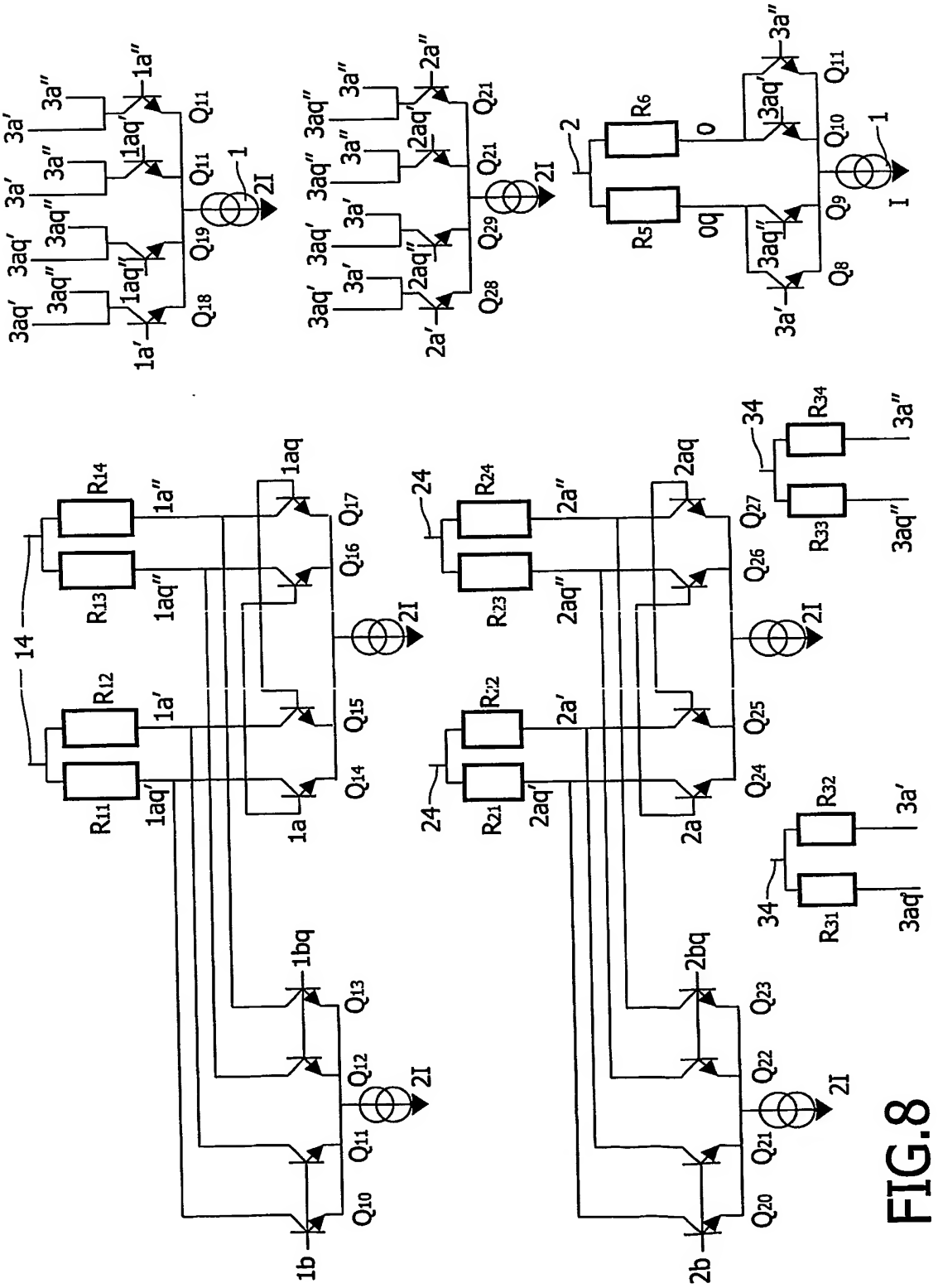
3aq′
3aq″
3a′
3a″
1a′
1aq″
1aq′
1a″
Q18
Q19
Q11
2I
1
3aq′
3aq″
3a′
3a″
2a′
2aq″
2aq′
2a″
Q28
Q29
Q21
2I
2
R5
R6
oq
o
3a′
3aq″
3aq′
3a″
Q8
Q9
Q10
Q11
I
1
14
R11
R12
R13
R14
1aq′
1a′
1aq″
1a″
1a
1aq
Q14
Q15
Q16
Q17
2I
1b
1bq
Q10
Q11
Q12
Q13
2I
24
R21
R22
R23
R24
2aq′
2a′
2aq″
2a″
2a
2aq
Q24
Q25
Q26
Q27
2I
34
R31
R32
R33
R34
3aq′
3a′
3aq″
3a″
2b
2bq
Q20
Q21
Q22
Q23
2I

FIG.8